Center for Nanophase Materials Sciences

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Center for Nanophase Materials Sciences

- General
  - Mixed use facility with office, laboratory, conference, clean room and support spaces
  - Approximately 80,000 gsf that consists of a four story office and lab building and a connected single story clean room building.

- Site and Utilities
  - Current site is rough graded within several feet of final elevation
  - Sidewalks, plazas and parking areas and site lighting will be included
  - Exterior areas include a nitrogen storage tank, electrical substations, loading dock, chemical and gas bottle storage areas.
  - CNMS utilities will be extended underground from the existing SNS utilities
  - Nitrogen, compressed air, deionized water, cooling water and an exhaust system will be provided to each laboratory

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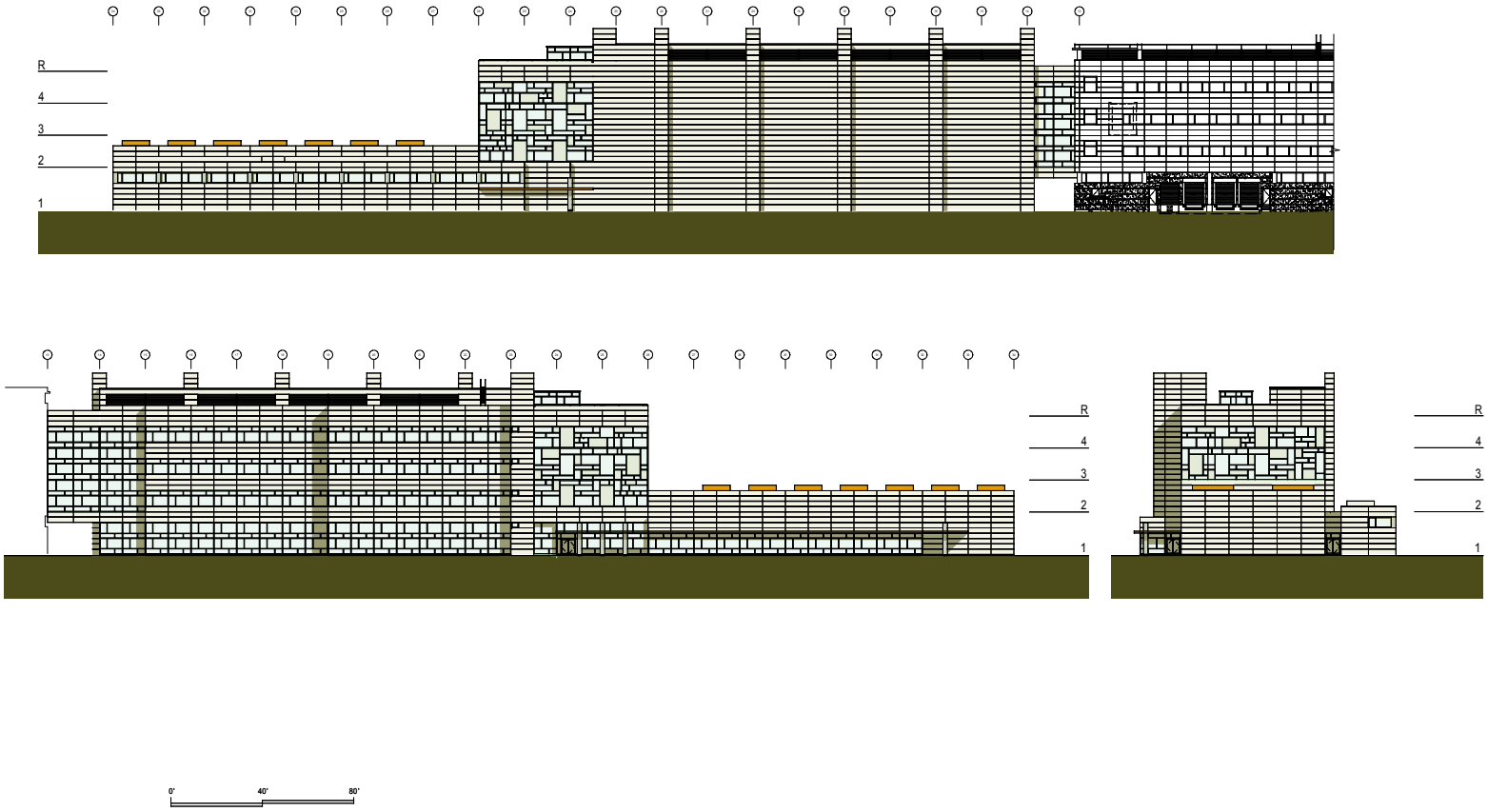

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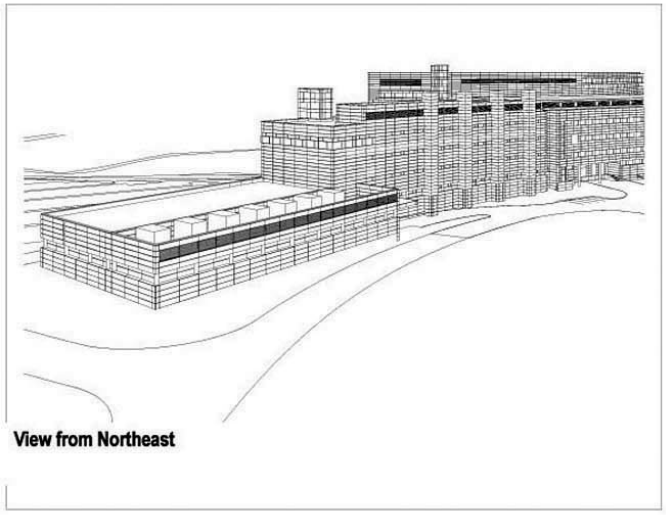
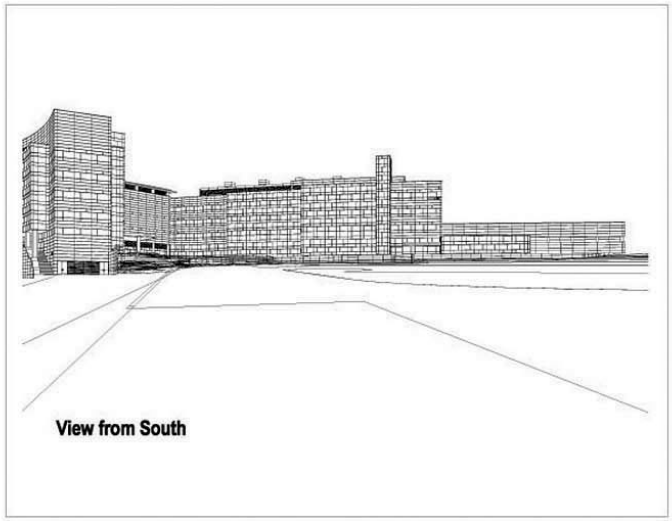
View from Southwest



View from Northeast

View from Southeast



View from South

Perspective Views

The exterior appearance of the CNMS Building will be consistent with the appearance, materials, and massing of the adjacent SNS CLO Building.

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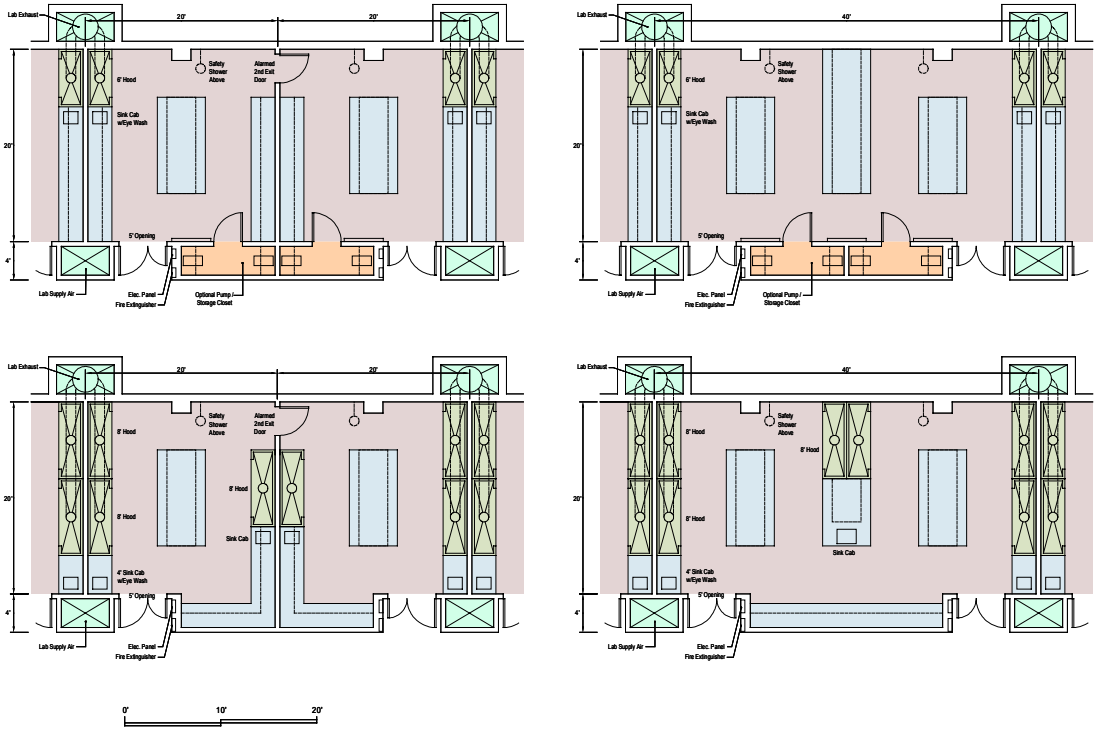

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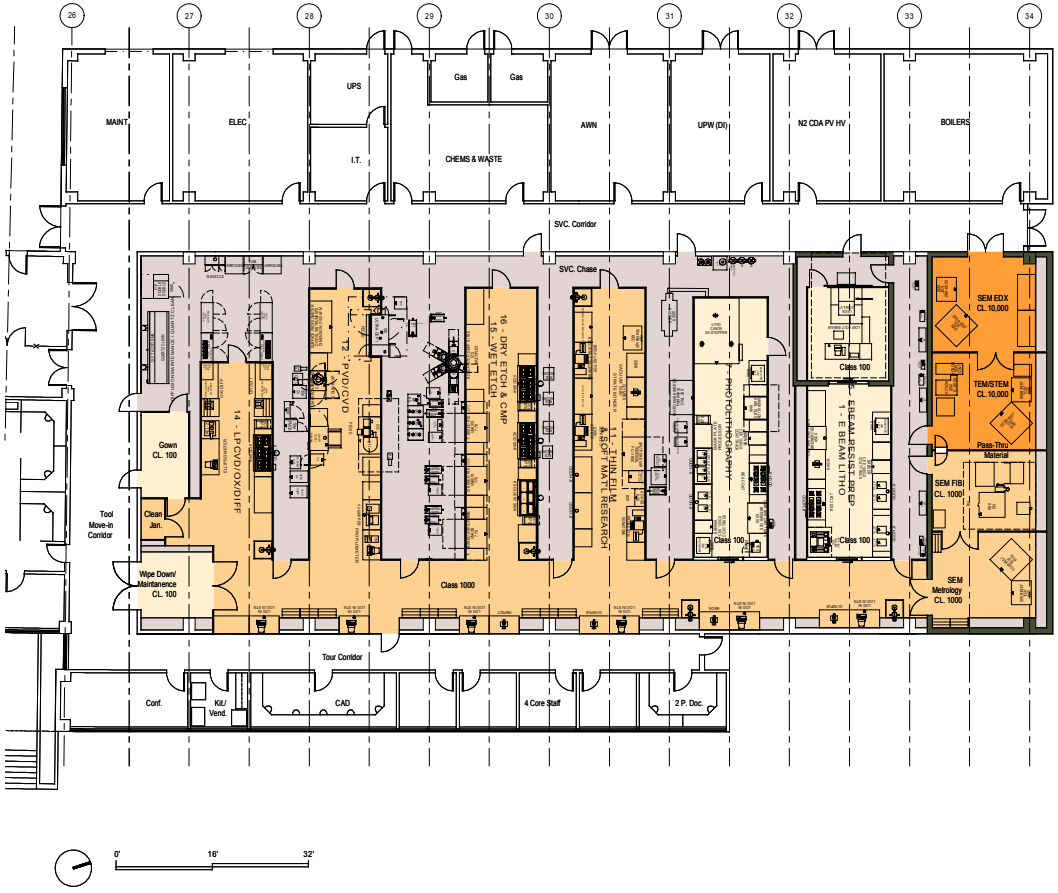

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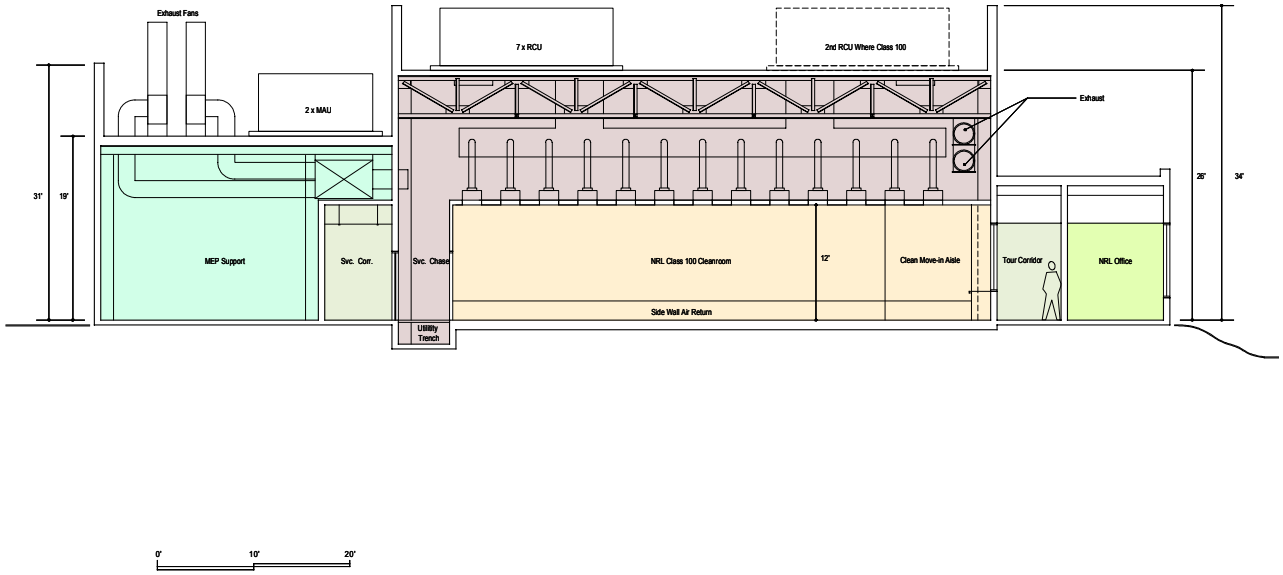

- Architectural
  - Exterior is insulated metal panels with a window system, the roof is built-up asphalt roofing over concrete and metal deck
  - There are standard finishes in the offices, carpeting and painted dry wall on metal studs
  - The laboratories have chemical resistant floors, built in casework, safety showers and fume hoods.
  - A passenger elevator is included

- Structural
  - Foundation will be spread footings which may be supported by friction piles due to the 15’ to 50’ of fill in this area. Additional soil borings are being taken in the area to support a geotechnical investigation
  - Building framing system is structural steel, the floor slabs will be suspended concrete slabs
  - CMU walls are required for acoustic segregation around some clean room areas

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- Mechanical
  - Chilled water for HVAC will be provided by the SNS central utility building
  - Two air cooled chillers and associated service transformer will be added to the utility building
  - Chilled water piping will be extended from the existing site system
  - A gas fired boiler will be included for heating water
  - A laboratory exhaust system will provide constant fume hood face velocity
  - Cleanroom airflow for the class 100 and class 1000 areas will be provided by recirculation air handling units located above the rooms

- Electrical
  - 13.8kV power will be pulled from the main site substations to two outside service transformers
  - A service transformer will be added to the central utility building to serve the additional chillers
  - Diesel generator and UPS will provide emergency power.
  - Building and equipment grounding and lightning protection will be included

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Activity	Schedule
• Design	Feb ’02 – Dec ‘02
• Substructure Construction	Nov ’02 – Apr ‘03
• General Building Construction	Apr ‘03 – Jul ‘04